Paper No. 23

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JEREMY D. STONE

Appeal No. 2002-0187
Application No. 09/100,792

ON BRIEF

Before HAIRSTON, JERRY SMITH, and FLEMING, Administrative Patent Judges.

HAIRSTON, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1 through 36.

The disclosed invention relates to a method and system for simulating a computer-controlled unit in a simulated environment in which first and second portions of the simulation are updated

at first and second rates. The second rate is varied in response to changes in the tactical condition of the computer-controlled unit.

Claim 1 is illustrative of the claimed invention, and it reads as follows:

> 1. A method for simulating a subject computer-controlled unit in a simulated environment having at least one other unit within the environment, the method comprising:
>
> periodically determining a tactical condition relating to the subject unit;
>
> updating a first portion of the simulation at a first rate;
>
> updating a second portion of the simulation at a second rate; and
>
> varying the second rate in response to changes in the tactical condition.

The references relied on by the examiner are:

McManus, "A concurrent distributed system for aircraft tactical decision generation," Proceedings of the IEEE/AIAA/NASA Digital Avionics Systems Conference, pp. 505-12 (1990).

Noser et al. (Noser), "Navigation for Digital Actors Based on Synthetic Vision, Memory, and Learning," Computer & Graphics, (19)1, pp. 7-19 (January/February 1995).

Trias et al. (Trias), "Decision Networks for Integrating the Behaviors of Virtual Agents and Avatars," Proceedings of the IEEE Virtual Reality Annual International Symposium, pp. 156-62 (1996).

Claims 1 through 9, 11 through 25 and 27 through 36 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over McManus in view of Noser.

Claims 10 and 26 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over McManus in view of Noser and Trias.

Reference is made to the briefs (paper numbers 13 and 15) and the answer (paper number 14) for the respective positions of the appellant and the examiner.

OPINION

We have carefully considered the entire record before us, and we will reverse the obviousness rejection of claims 1 through 36.

We agree with the examiner's findings (answer, page 4) concerning the teachings of McManus. The two aircraft in the simulator disclosed by McManus are controlled in parallel via two parallel sets of programs (Figure 2; pages 507 and 508). The examiner states (answer, page 4) that "it is not clear that these [aircraft] can or do operate at different rates." In the absence of any disclosure in McManus directed to operation rates of the two aircraft, we hereby decline to speculate as to the operation rates of the two aircraft. We likewise agree with the examiner's findings (answer, page 4) concerning the variable attention rate

teachings of the digital actor in Noser (pages 7 and 14). In view of the teachings of these publications, the examiner concludes (answer, pages 4 and 5) that:

> It would have been obvious to one skilled in the art at the time of the applicant's invention to incorporate more complex autonomous behavior, as is seen in Noser et al., as adversarial aircraft in the system of McManus. McManus teaches training against an "automated opponent" (pg. 505, col. 1, third paragraph). Providing automated units with more complex and believable behavior characteristics is a well-known problem in the warfare simulation arts (for example, see the cited reference Estvanik, pg. 26, first paragraph). Providing autonomous units with more human-like responses would allow for simulators to be used to develop more realistic pilot training.

Appellant argues (brief, page 8) that "[n]othing in Noser indicates that changes in Noser's attention rate are anything other than arbitrary decisions, made independently of any condition being simulated." We agree. We additionally agree with appellant's argument (brief, page 8) that:

> McManus has the same deficiency. Different units and different parts of the simulation are performed concurrently. These might or might not "operate at different rates," as argued by the Examiner. But, McManus does not teach or suggest that any of these rates can be "varying" as required by claim 1. And McManus certainly has no teaching or suggestion that simulation rates might vary "in response to changes in the tactical condition" of the units being simulated. Therefore, claim 1 distinguishes in a patentable manner from any combination of McManus with Noser.

A review of the record does not reveal where in the record the examiner found the reasoning for combining the teachings of McManus and Noser. The factual question of motivation should be resolved based on evidence of record, and not on the subjective belief and unknown authority expressed by the examiner. In re Lee, 277 F.3d 1338, 1343-44, 61 USPQ2d 1430, 1434 (Fed. Cir. 2002). Thus, the obviousness rejection of claims 1 through 9, 11 through 25 and 27 through 36 is reversed because of appellant's arguments supra and the argument (reply brief, page 3) that "it would not have been obvious to one skilled in the relevant art to have applied the autonomous actor and obstacle avoidance teachings of Noser et al. to an air combat simulator that uses separate situation assessment knowledge sources, with relative geometry data and other aircraft state data, to periodically determine a tactical condition relating to target aircraft as taught by McManus."

The obviousness rejection of claims 10 and 26 is reversed because the teachings of Trias fail to cure the noted shortcomings in the teachings of McManus and Noser.

DECISION

The decision of the examiner rejecting claims 1 through 36 under 35 U.S.C. § 103(a) is reversed.

REVERSED

KENNETH W. HAIRSTON Administrative Patent Judge	)
JERRY SMITH Administrative Patent Judge	) BOARD OF PATENT APPEALS AND INTERFERENCES
MICHAEL R. FLEMING Administrative Patent Judge	)

KWH:hh

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